

ABSTRACT OF THE DISCLOSURE

A process for removing and/or dry etching noble metal-based material structures, e.g., iridium for electrode formation for a microelectronic device. Etch species are provided by plasma formation involving energization of one or more halogenated organic and/or inorganic substance, and the etchant medium including such etch species and oxidizing gas is contacted with the noble metal-based material under etching conditions. The plasma formation and the contacting of the plasma with the noble metal-based material can be carried out in a downstream microwave processing system to provide processing suitable for high-rate fabrication of microelectronic devices and precursor structures in which the noble metal forms an electrode, or other conductive element or feature of the product article.